

CLAIMS

What we claim is:

1. A system for regulating the temperature of a heating or cooling device using a non-electric controller, comprising:
 - a heating or cooling device comprising a cold region, a hot region, and an input of constant energy, there being a temperature difference between the cold region and the hot region; and
 - a controller comprising an element of high thermal conductivity, the element configured to be placed in thermal contact with at least a portion of the cold region and at least a portion of the hot region, the element further configured to create a path for heat exchange between the portion of contacted hot region and the portion of contacted cold region, whereby the heat exchange is controlled to regulate the temperature of one of the regions, resulting in a controlled region and a non-controlled region.
2. The system of claim 1 wherein the element comprises a metal selected from the group consisting of aluminum, copper, silver, and gold.
3. The system of claim 1 wherein the element has a thermal conductivity of at least $50 \text{ (W)(m}^{-1}\text{)(}^{\circ}\text{C}^{-1}\text{)}$.
4. The system of claim 1 further comprising a bimetal, the bimetal being thermally insulated from the non-controlled region and configured to be placed in thermal contact with at least a portion of the controlled region.
5. The system of claim 4 wherein the heat exchange between the non-controlled region and the controlled region is regulated, at least in part, by thermal expansion of the bimetal.
6. The system of claim 1 wherein the temperature of the controlled region is user adjustable.
7. The system of claim 5 wherein the temperature of the controlled region is automatically controlled.

8. A system for regulating the temperature of a heating or cooling device using a non-electric controller, comprising:
 - a heating or cooling device comprising a cold region, a hot region, and an input of constant energy, there being a temperature difference between the cold region and the hot region; and
 - a fluid circuit, the fluid circuit comprising a channel with a fluid therethrough, the fluid circuit configured to be placed in thermal contact with at least a portion of the cold region and at least a portion of the hot region, the fluid circuit further configured to create a path for heat exchange between the portion of contacted hot region and the portion of contacted cold region, whereby the heat exchange is regulated to control the temperature of one of the regions, resulting in a controlled region and a non-controlled region.
9. The system of claim 8 further comprising an adjustable valve for controlling the path and flow rate of the fluid in the fluid circuit.
10. The system of claim 8 further comprising an element having a high thermal conductivity, the element configured to be placed in thermal contact with the fluid circuit and one of the regions.
11. The system of claim 10 wherein the element comprises a metal selected from the group consisting of aluminum, copper, silver, and gold.
12. The system of claim 11 wherein the element has a thermal conductivity of at least $50 \text{ (W)(m}^{-1}\text{)(}^{\circ}\text{C}^{-1}\text{)}$.
13. The system of either of claims 8 or 10 further comprising a bimetal, the bimetal being thermally insulated from the non-controlled region and configured to be placed in thermal contact with at least a portion of the controlled region.
14. The system of claim 13 wherein the heat exchange between the non-controlled region and the controlled region is regulated, at least in part, by thermal expansion of the bimetal.

15. The system of claim 8 wherein the temperature of the controlled region is user adjustable.
16. The system of claim 13 wherein the temperature of the controlled region is automatically controlled.
17. A system for regulating the temperature of a heating or cooling device using a non-electric controller, comprising:
 - a heating or cooling device comprising a cold region, a hot region, and an input of constant energy, there being a temperature difference between the cold region and the hot region, and an airflow over them; and
 - a controller configured to alter the airflow rate over one of the regions, whereby heat is exchanged to the environment in a controlled manner to regulate the temperature of one of the regions, resulting in a controlled region and a non-controlled region.
18. The system of claim 17 further comprising a bimetal, the bimetal being thermally insulated from the non-controlled region and configured to be placed in thermal contact with at least a portion of the controlled region
19. The system of claim 18 wherein the heat exchange between one of the regions and the environment is controlled, at least in part, by the thermal expansion of the bimetal.
20. They system of claim 19 wherein the temperature of the controlled region is user adjustable.
21. A controller for regulating the temperature of a heating or cooling device comprising:
 - an element of high thermal conductivity, the element configured to be placed in thermal contact with at least a portion of a cold region of a heating or cooling device and at least a portion of a hot region of a heating or cooling device, the element further configured to create a path for heat exchange between the portion of contacted hot region and the portion of contacted cold region, whereby the heat exchange is

controlled to regulate the temperature of one of the regions, resulting in a controlled region and a non-controlled region.

22. A fluid circuit for regulating the temperature of a heating or cooling device comprising:

a channel with a fluid therethrough, the fluid circuit configured to be placed in thermal contact with at least a portion of a cold region of a heating or cooling device and at least a portion of a hot region of a heating or cooling device, the fluid circuit further configured to create a path for heat exchange between the portion of contacted hot region and the portion of contacted cold region, whereby the heat exchange is regulated to control the temperature of one of the regions, resulting in a controlled region and a non-controlled region.

23. A controller for regulating the temperature of a heating or cooling device wherein the controller is configured to alter the airflow rate over a cold or hot region of a heating or cooling device, whereby heat is exchanged to the environment in a controlled manner to regulate the temperature of one of the cold or hot regions, resulting in a controlled region and a non-controlled region.